"Mini-Medical School for Librarians": from needs assessment to educational outcomes

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Purpose: This study evaluates the outcomes of the ''Mini-Medical School for Librarians'' or ''Medical School Experience,'' a continuing education symposium designed to improve librarians' understanding of medicine and medical education.

Subjects: The subjects are the symposium participants, a group that consisted of fifty-eight medical librarians and other information professionals.

Methodology: Pre- and post-symposium self-evaluation surveys gauged participants' self-assessed confidence with the course content. A follow-up survey was administered six months after the symposium. A learning action plan recorded both the intended and actual applications of course content to professional settings.

Results: *T-test* analysis of paired pre- and post-symposium responses reveal a significant positive change in the mean self-assessed confidence with course content immediately following the symposium. Pairings of post-symposium and follow-up survey responses indicate a slight reversal in attendees' confidence in the months following the symposium, but pairings of pre-symposium and follow-up survey results demonstrate that the longitudinal impact of the program on self-assessed confidence with course content was positive and significant. Analysis of the learning action plan revealed a disparity in how participants planned to use the information they learned in the course and how they actually used it.

Conclusions: Continuing education programs that address the content and structure of medicine can be an effective means by which to inform both the novice's and mid-career medical librarian's understanding of medicine and medical education.

The Medical Library Association (MLA) and its chapters are well known for the continuing education (CE) programs they offer. CE programs are timely, address professional concerns—for example, the consumer health specialization program offered by MLA—and meet member-requested needs. This paper describes the inception and implementation of a CE program based on a librarian-identified CE need for greater subject expertise in medicine, coupled with a rigorous evaluation of and follow-up to the impact of the CE program on members' knowledge and behavior following the CE program.

THE "MINI-MEDICAL SCHOOL FOR LIBRARIANS"

Assessing local needs

''Mini-medical schools'' are educational programs designed for the layperson eager to learn about biomedical subject matter, specific clinical topics, and the practice of medicine. Typically sponsored by medical schools or hospitals and taught by medical faculty, mini-medical schools tend to be offered as a series of lectures that spans several weeks and addresses a broad range of health topics. The programs encourage participants to interact with health care professionals and expose themselves, if briefly and superficially, to information that a typical medical student might learn [1].

The number of mini-medical school programs has grown significantly from the time the concept was pioneered in 1990 by Cohen at the University of Colorado [2]. According to the National Institutes of Health, more than seventy such programs are offered in the United States on a regular basis [2]. Mini-medical schools are very popular, well attended, and often filled to capacity [3]. These programs serve two purposes. First, they are public relations tools, because they foster good will between the sponsoring institutions and the general public. Second, they are useful vehicles for disseminating important consumer health information. They are, in effect, ''a mix of public service and public relations'' and ''showcase faculty and resources of medical centers, slake public thirst for medical knowledge, and knit closer ties to the community'' [4].

The New York-New Jersey Chapter of MLA first became interested in the mini-medical school concept while planning its 2000/01 CE curriculum. During a brainstorming session, a member of the Continuing Education Committee suggested the need for a program where participants could learn about the science of medicine. The chapter had sponsored numerous courses that focused on information resources and

technology—both essential to medical library practice—but no recent course had focused on medicine itself as a unifying theme. As a new medical librarian, the committee member explained her needs: a course that addressed the nuts and bolts of medical education and the content of medical knowledge. She ventured that having a deeper understanding of the underlying structure of medical practice would both inform and enrich her daily practice of librarianship and particularly help her provide outstanding service. The committee postulated that such an educational need likely existed for a significant portion of the chapter membership. The committee collectively realized that a mini-medical school model, if modified and customized with librarians in mind, might serve this need.

The Continuing Education Committee's chair and immediate past-chair subsequently put out a call for experienced health sciences librarians to participate in a discussion of what would comprise a mini-medical school specifically devised for librarians. The goal was to translate programs traditionally intended for the general public and held over several weeks into a one-day, multifaceted symposium designed for information professionals of all stripes, particularly new medical librarians and public librarians newly dealing with medical and consumer health information requests.

The planning committee for the ''Mini-Medical School for Librarians'' met several times and discussed what gaps committee members saw in the knowledge and subject expertise of new librarians. The committee also recalled what they themselves had not known as beginning medical librarians and drew on their experience in previous health sciences careers. The planning process was challenging, exciting, and extensive. The committee reached consensus on five knowledge areas for the program: the need for knowledge of the structure of undergraduate and graduate medical education, the language or terminology on which medicine is based, a typical physician's approach to and techniques for physical examination and diagnosis, pharmacology and its interface with medical practice, and public health. The committee later decided to include oncology as well, though the topics of cardiology and infectious diseases were also carefully considered.

The planning committee focused a great deal of energy on selecting ''teaching faculty'' for the ''Mini-Medical School for Librarians.'' Faculty were selected based on their medical expertise and, perhaps more importantly, their teaching expertise. The committee sought clinician-educators who approached teaching both with enthusiasm and the ability to translate complex medical concepts into terms easily understood by an educated, but nonexpert audience. Faculty members were encouraged to prepare lectures and be ready for interactive question-and-answer sessions with attendees. To complement the lectures and discussion sessions, the planning committee also developed curriculum support materials, including faculty-approved subject bibliographies, copies of each presenter's presentation slides, and faculty biographies.

The program was held in New York City in April 2002. Forty librarians registered and attended. Participants included public librarians and medical librarians, both new and experienced, from the New York City metropolitan area and beyond. The program was largely lecture-based, but the intimate size was very conducive to discussion. All participants completed an evaluation form; the program received positive reviews and requests for repeat performances. The ''Mini-Medical School for Librarians'' was awarded the 2003 Majors/MLA Chapter Project of the Year Award at MLA '03, the 2003 annual meeting of the Medical Library Association, in San Diego, California.

Expanding a local program to a national audience

Because the ''Mini-Medical School for Librarians'' was so positively received in its original format, the New York-New Jersey Chapter proposed replicating the program as a symposium at MLA '04 in Washington, DC. The planning committee was composed of six members of the New York-New Jersey Chapter, largely the same group who had planned the earlier, local program. The program's title was changed to the ''Medical School Experience,'' a name intended to reflect more accurately the content and goals of the course.

During the planning process, the committee worked closely with an experienced and enthusiastic clinician-educator, who had also committed to serving as faculty, to identify ways of incorporating greater interactivity into the program, based on sound adult learning practice, and to select faculty for the program. After review, the program was significantly restructured. This time, four sessions were planned—two fewer than the original program—to encourage lengthier and more substantial sessions. The sessions were: ''Undergraduate and Graduate Medical Education,'' ''Pharmacology,'' ''Physiology and Pathophysiology and Anatomy,'' and ''Physical Examination and Diagnosis.'' The planning committee aimed for a lively and informative balance of lecture-based presentations and interactive question-and-answer discussions and exercises. Instead of having all attendees sit through the program in a large and monolithic group, the program committee decided to divide participants into four small groups. These groups rotated in sequence through the four sessions, creating another layer of interaction.

Clinical faculty were selected in large measure based on their teaching expertise. The faculty members worked together prior to the program and, with approval from the planning committee, developed a unifying theme—the heart—that loosely wove the sessions together. This forethought and collaboration provided an important cohesiveness to the program. To complement the instructional sessions, the planning committee provided faculty-reviewed subject bibliographies and other curriculum support material.

The planning committee designed a CE program based on adult learning principles and effective continuing professional development methods. The planners wanted to ensure that attendees would retain knowledge and move toward a change in their work

behavior. Effecting a change in practice is the gold standard of continuing professional development, and the planning committee hoped to give participants every opportunity to apply learned information to their practice of librarianship.

Because CE programs that are large and lecture-based are known to be less effective in inducing a change in practice than in the retention of knowledge [5], the program planners chose to adopt a small-group model for the ''Medical School Experience'' symposium to enhance and encourage instructor-participant interaction. Small-group CE sessions, especially used in conjunction with other CE methods, have been shown to be an effective way of ensuring knowledge retention [5, 6]. In addition, the guiding principle of the learning action plan was a commitment to change and an emphasis on individual action and responsibility for learning [7].

As the process leading to change moves from precontemplation to contemplation and preparation, professionals may use attendance at a formal CE program in their preparation for change [8, 9]. Attendance at the ''Medical School Experience'' could be part of the educational process that begins with preparing to change. The appeal of the ''Medical School Experience'' suggests that librarians are interested in obtaining a greater understanding of their own work environment and that of their users.

"MEDICAL SCHOOL EXPERIENCE": METHODOLOGY USED TO MEASURE PROGRAMMATIC IMPACT AND LEARNING OUTCOMES

As an integral part of the planning process, the committee designed a strategy for measuring the learning outcomes and impact on practice among ''Medical School Experience'' symposium participants. Using a pre-symposium, post-symposium, and follow-up methodology, committee members invited participants to engage in three self-evaluations. The first self-evaluation was sent out via email approximately one month prior to the symposium. Appendix A contains the questions common to all surveys. This self-evaluation examined participants' perceived understanding of the content to be addressed in the course. The pre-symposium survey consisted of two parts. Part I, composed of five questions, gathered demographic information about the respondents' professional and educational backgrounds. The data were compiled into an attendee profile, which helped the planning committee form an understanding of who had registered for the program. Part II consisted of nine questions of confidence related to program's subject matter, to which attendees responded along a five-point ordinal (Likert) scale from 1 (''agree strongly'') to 5 (''disagree strongly'').

The second self-evaluation exercise was a post-symposium self-assessment survey. Appendix B contains questions unique to post-symposium and follow-up surveys. This survey was administered onsite during the final moments of the symposium. The post-symposium survey included three parts. Part I consisted of questions identical to the questions in the pre-symposium survey. Part II introduced four additional questions not on the pre-symposium instrument. These questions addressed the attendees' intentions for applying their newly acquired knowledge from the program in their professional positions and for continuing their education in the areas of instruction. Again, attendees were directed to score responses to statements along a five-point ordinal (Likert) scale from 1 (''agree strongly'') to 5 (''disagree strongly''). In the third part of the post-symposium survey, participants were asked to create and submit a learning action plan, which detailed how they planned to apply the knowledge gained from the course. The learning action plan allowed open-ended responses to questions about the attendees' intentions (if any) for employing knowledge acquired from the program in professional settings and/or for participating in CE in the areas of instruction.

Six months after the symposium, participants were invited to complete a third self-evaluation exercise (Appendix C), designed to capture long-term learning outcomes. This follow-up survey, a capstone for the ''Medical School Experience'' symposium, was administered online via SurveyMonkey.com, a commercial survey administration service. The follow-up survey included four parts. Part I consisted of the same nine statements in the pre- and post-symposium surveys. As with the earlier surveys, respondents were asked to self-assess their agreement with each statement along a 5-point ordinal (Likert) scale from 1 (''agree strongly'') to 5 (''disagree strongly''). Results from this section of the follow-up survey questions were then paired with the results from the respective sections of the pre- and post-symposium surveys. These new pairings gauged the long-term impact of the instruction on their knowledge retention and on their self-assessed confidence in the areas of instruction.

The second part of the follow-up survey consisted of reiterations of the four questions posed in part II of the post-symposium survey. Results from the follow-up survey were paired with results from the post-symposium survey to determine long-term impact of the symposium on the attendee's actual intentions for applying their acquired knowledge in their professional settings, as well as for CE in the areas of instruction. Part III of the follow-up survey revisited the learning action plan. Respondents were asked to identify how they had continued to pursue education in the areas of instruction since attending the ''Medical School Experience'' symposium and how they had incorporated their acquired knowledge into their professional work. To organize these open-ended responses, a coding and collection mechanism was used to mark patterns of responses. Two planning committee members, working independently, organized responses into categories; in turn, these categories were harmonized into a single checklist. The fourth and final component of the follow-up survey prompted respondents to identify

Table 1
Pre- and post-symposium survey results

	Paired differences							
				95% confidence interval of the difference				
	Change in mean	Standard deviation	Standard error	Lower	Upper	*t*	*df*	Significance 2-tailed
Question 1	1.029	0.969	0.1661	0.691	1.367	6.196	33	0.000
Question 2	1.088	1.164	0.1997	0.682	1.494	5.450	33	0.000
Question 3	1.058	0.919	0.1576	0.738	1.380	6.717	33	0.000
Question 4	0.705	1.031	0.1767	0.346	1.066	3.993	33	0.000
Question 5	1.088	0.933	0.1600	0.763	1.414	6.800	33	0.000
Question 6	0.853	0.821	0.1409	0.566	1.140	6.055	33	0.000
Question 7	1.176	0.869	0.1491	0.873	1.480	7.891	33	0.000
Question 8	1.029	0.904	0.155	0.714	1.345	6.640	33	0.000
Question 9	1.147	1.048	0.180	0.781	1.513	6.380	33	0.000

Attendees: 58; paired pre- and post-symposium results: 34; response rate: 58%; critical *t* values for $df = 33$; 0.05 = 2.036; 0.01 = 2.736.

barriers preventing them from following through with the goals outlined in their self-created learning action plans.

DATA ANALYSIS

For the responses derived from the pre-symposium and post-symposium surveys, *t-test* analyses gauged the immediate impact of program attendance on attendee knowledge and self-assessed confidence in subjects addressed in the instruction sessions. A summary of the results is illustrated in Table 1. Surveys were administered to 58 symposium participants, and 34 were returned (58% response rate) for both pre- and post-symposium surveys. For each of the 9 statements, a considerable (positive) change in mean was noted, reflecting an overall improvement in the self-assessed confidence level of respondents in all areas at the $P < 0.05$ level (note t values range from 3.99 to 7.89; $P < 0.001$). The change was statistically significant and above the critical threshold (2.04) for $df = 33$. The most dramatic change appeared in response to questions 3 (understanding the difference between intern, resident, and house officer), 5 (understanding the matching process and graduate medical education), 7 (understanding the nature of physiology and the relationship of its study to medical training), and 8 (understanding what comprises a patient history and how that relates to differential diagnosis). Less dramatic, though still statistically significant, was the change seen in response to question 4 (understanding the difference between a medical student's preclinical and clinical training). These results strongly suggested that the intervention significantly improved self-assessed understanding and confidence in core content areas, while they also suggested areas for future improvement (e.g., additional or more detailed instruction differentiating the medical student's preclinical and clinical training periods).

As above, *t test* analyses were conducted for the responses from the follow-up survey and the pre- and post-symposium surveys. In each case, 25 pre-symposium and follow-up and post-symposium and follow-up results were returned (43% response rate). The pre-symposium and follow-up questions (Table 2) revealed a significant positive change in mean in all areas of measure at the $P < 0.05$ level (note t values range from 2.683 to 8.430; $P < 0.001$) with the possible exception of question 3 (understanding the difference between intern, resident, and house officer). These results were consistent with those of the pre- and post-symposium survey analysis, suggesting that sympo-

Table 2
Pre-symposium and follow-up to symposium survey results

	Paired differences							
				95% confidence interval of the difference				
	Change in mean	Standard deviation	Standard error	Lower	Upper	*t*	*df*	Significance 2-tailed
Question 1	0.920	0.909	0.182	0.545	1.295	5.059	24	0.000
Question 2	1.040	1.172	0.234	0.556	1.52	4.437	24	0.000
Question 3	0.600	1.118	0.224	0.139	1.062	2.683	24	0.013
Question 4	0.760	0.970	0.193	0.360	1.160	3.919	24	0.001
Question 5	0.880	1.013	0.203	0.462	1.298	4.342	24	0.000
Question 6	0.960	0.841	0.168	0.613	1.307	5.710	24	0.000
Question 7	1.160	0.688	0.138	0.876	1.444	8.430	24	0.000
Question 8	1.000	0.957	0.191	0.605	1.395	5.222	24	0.000
Question 9	1.160	0.987	0.197	0.753	1.567	5.879	24	0.000

Attendees: 58; paired pre-symposium and follow-up results: 25; response rate: 43%; critical *t* values for $df = 24$; 0.05 = 2.064; 0.01 = 2.797.

Table 3
Post-symposium and follow-up survey results I

	Paired differences							
				95% confidence interval of the difference				
	Change in mean	Standard deviation	Standard error	Lower	Upper	*t*	*df*	Significance 2-tailed
Question 1	−0.160	0.625	0.125	−0.418	0.0978	−1.281	24	0.212
Question 2	−0.200	0.707	0.141	−0.492	0.092	−1.414	24	0.170
Question 3	−0.480	0.963	0.193	−0.877	−0.083	−2.493	24	0.020
Question 4	0.000	0.577	0.115	−0.238	0.238	0.000	24	1.00
Question 5	−0.240	0.597	0.119	−0.487	0.007	−2.009	24	0.056
Question 6	−0.160	0.688	0.138	−0.444	0.124	−1.163	24	0.256
Question 7	−0.160	0.688	0.138	−0.444	0.124	−1.163	24	0.256
Question 8	−0.080	0.493	0.099	−0.284	0.124	−0.811	24	0.425
Question 9	−0.080	0.493	0.099	−0.284	0.124	−0.811	24	0.425

Attendees: 58; paired post-symposium and follow-up results: 25; response rate: 43%; critical *t* values for *df* = 24; 0.05 = 2.064; 0.01 = 2.797.

sium participants experienced a long-term improvement in confidence about their understanding of what was taught at the symposium. The post-symposium and follow-up analysis, summarized in Table 3, revealed no significant improvement in any areas of measure; rather, there was a slight reversal in confidence across all measurements, with the exception of survey question 4 (understanding the difference between a medical student's preclinical and clinical training years), which showed no change. The authors suggest this apparent reversal in confidence may be a ''halo'' effect experienced by attendees from their proximity to the instructional event. Surveyed immediately after the symposium, attendees' responses might have been slightly skewed by a temporary surge in confidence with the subject matter. It is encouraging, however, that despite attendee confidence registering somewhat lower several months after the program, the overall self-assessed confidence of attendees was much improved compared to the pre-symposium survey.

In the learning action plan and in the post-symposium survey, attendees were asked about their intentions to pursue CE and to seek opportunities for applying their acquired knowledge. Results from the pairing of questions 10 to 13 on the post-symposium and follow-up survey are shown in table 4. Tables 5 and 6 reveal the identified means by which participants intended to: (a) continue education in the subject areas addressed at the symposium and (b) apply their acquired knowledge in professional settings.

The authors further grouped responses into the following subcategories based on additional information provided by responders in the follow-up learning action plan: informal, formal, internal, and external. Responses belonging to the informal subcategory indicated the pursuit of learning through self-directed means or ''unofficial'' channels not ''sanctioned'' by a governing organization (e.g., independent study of the literature). The formal subcategory indicated learning through organized or ''official'' channels sanctioned by a governing body (e.g., enrolling in a credit-bearing CE program). The internal subcategory indicated learning through local channels (e.g., in the workplace or immediate institution). Finally, the external subcategory indicated learning through channels outside the workplace or immediate institution (e.g., CE course offered by an association). Although all responses were given designations of informal or formal and internal or external, these categories ultimately were not mutually exclusive; the nature of a given response might warrant its assignation to multiple subcategories (e.g., a response, ''I read more literature in the field and as part of my participation with morning report,'' represents both self-directed learning in the workplace, suggesting an informal/internal activity, while its conjunction with the structured environment of morning-report suggests it as one that is formal/internal).

Table 4
Post-symposium and follow-up survey results II

	Paired differences							
				95% confidence interval of the difference				
	Change in mean	Standard deviation	Standard error	Lower	Upper	*t*	*df*	Significance 2-tailed
Question 10	−0.083	0.503	0.102	−0.296	0.129	−0.811	23	0.426
Question 11	−0.375	0.647	0.132	−0.648	−0.102	−2.840	23	0.009
Question 12	−1.125	0.797	0.163	−1.462	−0.788	−6.912	23	0.000
Question 13	−0.917	0.776	0.158	−1.124	−0.589	−5.791	23	0.000

Attendees: 58; paired post-symposium and follow-up results: 24; response rate: 41%; critical *t* values for *df* = 23; 0.05 = 2.069; 0.01 = 2.807.

Table 5
"Medical School Experience" learning action plan, part A

I have continued to learn about the fields of medicine and medical education by:	#	Informal	Formal	Internal	External
1 Continuing self-learning, keeping up with literature	26	26	4	13	4
2 Attending own institution's medical school/medical center programs	12	12	1	12	0
3 Attending CE courses	8	8	2	1	1
4 Providing faculty consultation, interaction	7	7	0	7	0
5 Reading "Medical School Experience" symposium bibliography	5	5	0	0	0
6 Providing student and resident consultation, interactions	4	3	1	4	0
7 Developing own "Medical School Experience"–like program	1	0	1	1	0

In the follow-up survey, many respondents described significant barriers preventing them from following through with their intentions. These barriers included insufficient professional time and resources, job restrictions, lack of available CE, lack of institutional support, and lack of opportunities for interprofessional exchange. Such results might appear discouraging because they suggest that, on average, attendees had been frustrated in their intentions to continue their self-directed education or to apply knowledge that they acquired at the symposium. In general, those participants who intended to continue their education via informal or self-directed means ran up against restrictions of time and resource availability. In other words, their jobs were not conducive to self-education efforts. Informal or indirect means of learning about the medical process might be particularly elusive for those librarians who have recently entered the profession.

CONCLUSIONS

The mini-medical school program, so successful with the lay public, has proved to be a well-received and effective educational experience for librarians. While the mini-medical school does not provide attendees with the level of instruction necessary to claim subject expertise, it does serve as a strong introduction for newer health sciences librarians and a "filling in of the blanks" for experienced librarians. If health sciences librarians do not begin their library careers with a background in medicine and health care, either through education or previous careers, they often lack a systematic approach to understanding the health sciences environment and fields of which they are a part. For these librarians, CE and self-directed learning, as well as on-the-job and on-the-fly learning, are the norm.

CE experiences that take into account these issues are critical for health sciences librarians. Learning methods that introduce reflection on a librarian's educational gaps or current working environment offer the greatest chance that the material learned will be used. In the case of the mini-medical school for librarians, experienced health sciences librarians' reflection on a new member's self-expressed need "to learn the science" resulted in a program that resonated with librarians as well as CE planners.

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Table 6
"Medical School Experience" learning action plan, part B

I have applied what I learned at the symposium in my own job by:	#	Informal	Formal	Internal	External
1 Teaching or integrating content into curricula	24	13	14	22	2
2 Understanding user population better and improving communication	15	15	4	15	0
3 Performing strategic planning, needs assessment, marketing	9	7	4	9	0
4 Using improved search skills	6	6	3	6	0
5 Incorporating into own evidence-based medicine teaching	4	4	4	4	1
6 Developing own "Medical School Experience"–like program	3	1	2	2	1
7 Developing programs for nurses	2	1	1	2	0

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APPENDIX A

Questions asked on the pre-symposium survey

1. I understand the process by which a medical student becomes a physician.
2. I understand the structure, organization, and governance of medical schools.
3. I can distinguish between an intern, a resident, and a house officer.
4. I understand the difference between a medical student's preclinical and clinical training years.
5. I understand the matching process in graduate medical education.
6. I understand the nature of anatomy and how its study relates to the training of medical students.
7. I understand the nature of physiology and how its study relates to the training of medical students.
8. I understand the elements that constitute a patient history and how information taken from a patient interview factors into differential diagnosis.
9. I understand the nature of pharmacology and how its study relates to the training of medical students.

Responses to each question were arranged along the following Likert scale:

☐ 1 Agree strongly ☐ 2 Agree ☐ 3 Uncertain ☐ 4 Disagree ☐ 5 Disagree strongly

APPENDIX B

Questions asked on the post-symposium survey

Repeat of questions 1 to 9 in Appendix A and:

10. Having completed this course, I have a better understanding of the medical school process.
11. Having completed this course, I have gleaned new knowledge that will better enable me to serve our library's constituency.
12. Having completed this course, I will continue my own self-directed study of the medical school experience.
13. Having completed this course, I will work toward hosting a similar symposium for professionals (or mini-med school symposium for lay persons) at my institution.

Responses to each question were arranged along the following Likert scale:

☐ 1 Agree strongly ☐ 2 Agree ☐ 3 Uncertain ☐ 4 Disagree ☐ 5 Disagree strongly

Learning action plan

I plan to continue to learn about the fields of medicine and medical education by: ____

I plan to apply what I learned at the symposium in my own job by: ____

APPENDIX C

Questions asked on the follow-up survey

Repeat of questions 1 to 9 in Appendix A and 10 to 13 in Appendix B and:

Learning action plan

At the end of the symposium, you submitted a learning action plan (LAP). Specifically, you indicated that you intended to _____ . Since then, in which of the following ways (general categories) have you incorporated or been influenced by the content of the symposium in your continuing education and/or job-related undertakings. (Please check all that apply.)

I have continued to learn about the fields of medicine and medical education by:

- Self-paced, independent study, including reading the suggested bibliography: ____
- Continuing education programs: ____
- Formal education (matriculated): ____
- Monitoring of professional literature, lay press: ____
- Teaching, launching of similar program: ____
- Active or structured interaction with faculty, clinicians, etc. (e.g., attendance at morning reports, grand rounds, evidence-based medicine/journal clubs, ''shadowing''): ____
- Passive or unstructured interaction with faculty, clinicians, etc. (listening and talking with colleagues, more attentive on-the-job, ''absorbing''): ____

I have applied what I learned at the symposium in my job by:

- Teaching, integrating content into the curricula: ____
- Understanding library client needs; enhancing (developing new) library services and products: ____
- Improving communication with faculty and students: ____
- Keeping abreast of developments in health care, improve competences as medical librarians: ____
- Preparing for accreditation reviews: ____
- Engaging in staff development (library): ____
- Developing mini-medical school–like program: ____

Additional information:

I have continued to learn about the fields of medicine and medical education by:_____

I have applied what I learned at the symposium in my job by:_____

What barriers (if any) did you encounter that prevented or limited your ability to follow through with your LAP? (Please check all that apply.)

- Time, scheduling constraints ____
- Organizational structure ____
- Lack of convenient continuing or formal education opportunities ____
- Priorities ____
- Job constraints ____
- Organizational culture (resistance) ____
- Cost/expense ____
- Career, interest change ____
- Other ____